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THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

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AROUND THE LAKES.

CLEVELAND.

Captain Wm. S Mack will sail the steamer Raleigh next season.

Captain C. T. Morley is visiting in Sodus and Rochester, N. Y.

Moore, Bartow & Gilchrist succeed Moore & Bartow, brokers and vessel agents.

Mr. Robert E. Hills, of Chicago, was in the city this week. He is on a pleasure trip to the east.

The steambarge T. S. Christie, of Bay City, has been purchased by Messrs. Wallace & Cunningham, of Detroit.

Captain Henry Stone will sail the steamer Henry Chisholm next season. Captain Stone was lately in the E. B. Hale.

Captain Ira Owen of Chicago was in this city last week. He is sizing up the merits of the iron shipbuilders on the lakes.

Matthew Thomas, last season chief engineer of the steamer Cumberland, goes in the same capacity on the steamer Raleigh.

Captain Alex McDougall of Duluth, Captain Charles Norton, of Marine City, and Captain Cuson, of Detroit, were in the city a few days ago.

A. A. Parker, of the firm of Parker & Millen, of Detroit, is in the city on business; also, Captain T. Honer, of the steambarge Iron Age.

Captain John Nelson, formerly of the schooner Thomas Gawn, will sail the new steamer, building by Radcliff for J. H. Webb & Co., and others.

The Globe Iron Works are putting a new water bottom on the N. K. Fairbanks, boiler and some other repairs on it, fixing her up in first class shape.

Engineers Thompson, McGraw and Curtiss are named for the local inspectorship of steam boilers at this port, vice Thomas Fitzpatrick, resigned.

Mr. George Presley attended the annual meeting of the Drydock Association at Buffalo this week. He was re-elected president and H. J. Mills vice president.

Messrs. Worthington & Sons have sold the steambarge Luella Worthington to the Sheboygan Lumber Company for their lumber trade. Consideration about $35,000.

Captain Pete Young, of Port Huron, reports that the schooner Maxwell is in bad condition. Her cabin gone and decks partly gone and hull twisted all out of shape.

Hon. James Ash, of Buffalo, Captain J. C. Estes, of Sandusky, Captains Bob and Andrew Graves, of Geneva, and C. W. Elphicke, vessel owner and agent at Chicago, were in the city this week.

Captain F. A. Fick, last season master of the steamer Fred Kelly, goes master of the steamer Cumberland next season. The engineer that was in the Fred Kelly also goes in the Cumberland.

The Cleveland City Forge Co. have placed in their extensive works a complement of new machinery which will enable them to forge and finish work equal in size to any firm in the country. The firm is now at work on a large contract for Cramp & Son of Philadelphia.

Captain Carlton Graves and Mr. J. W. Warner have made an even trade in vessel property, the former transferring his 9-16th interest in the schooner Zach Chandler to Mr. Warner for the whole of schooner Columbian. Captain R. E. Burns will sail the Zach Chandler.

The annual ball of the marine engineers was held last evening at Hurd's hall, and notwithstanding the inclement weather was attended and thoroughly enjoyed by eighty-five couples. The arrangements for this occasion were more perfect and complete than ever before, and the supper, which was taken at Heise's was a credit to that favorite caterer. The committees of management were tireless in their efforts to make every one happy.

Captain Wm. Mack, of the propeller Republic, who has not been enjoying the best of health since the close of last season, will take a cruise to New Orleans and other southern cities and spend a few weeks in Florida, the flowery, where water famine is unknown; the enchanted place where harvests of tropical fruits are abundant and universal happiness prevails—but not for the Semminole; the land where the birds of the forest or the gentle wind are not more free than the blood-thirsty mosquito.

The new iron firm of Bassett, Presley & Hill, successors to McNally & Co., who took advantage of the prevailing low prices of iron and steel, are prepared with a large stock to supply all demands made upon them. These gentlemen are young, and full of enterprise and energy and will doubtless command a good share of the trade about to be realized from the improved tone of the iron market. They have contracts with Quayle's Sons and Mr. Radcliff for furnishing the goods in their line which will enter into the construction of the three steamers under contract.

Captain William Mack has purchased of Captain James Corrigan one-ninth of the steamer Raleigh at the rate of $40 000; one-ninth of the schooner Niagara, at the rate of $30,000; one-ninth of the schooner Lucerne at the rate of $20,500. Mr. James Corrigan has purchased of Captain Wm. Mack two-ninths of the schooner James Couch at the rate of 28,000. Mr. John Corrigan has purchased of James Corrigan one-quarter of the propeller Raleigh and one-quarter each of the schooners Lucerne and Niagara at the rate mentioned above. The transfer papers of the Raleigh and Lucerne were made to Captain James Corrigan a fortnight since by the trustees of the Winslow estate.

The arguments in the case of the Silver Islet Consolidated Mining and Land Company against the owners of the steambarge H. B. Tuttle for $80,000 damages, has been concluded in the United States district court. The next case to be presented before Judge Welker was brought by the owners of the schooner R. B. Hayes against the tug Thomas Quayle. On November 24, 1884, while being towed by the tug, the schooner grounded off Point Au Pelee, and, claiming that the accident was due to the carelessness of the tug crew, began the action to secure $1,600 damages. The tug owners, claiming that the schooner was at fault, then presented a cross libel for $1,515 damages. The claim includes a tow bill, money advanced, and five day's attention.

BAY CITY.

Special to the Marine Record.

Bay City is getting her proportion of the vessel building of the lakes. The full details of the propeller contracted for by Frank Wheeler for Ward's Lake Superior line, will be of interest. Length of keel 212 feet, length on deck 225 feet, beam 36 feet, lower hold 14 feet 6 inches, between decks 8 feet 6 inches, and to have a double iron cord, one around upper deck, with the sheer of the boat, eight inches wide by $\frac{5}{8}$ inches thick, and one around the hull, 8 inches wide and $\frac{5}{8}$ inches thick, to be put on straight or parallel with keel, and to be diagonally strapped, with iron straps, 4 inches wide and $\frac{1}{2}$ inch thick, to reach upper deck, between the gangways; sister keelsons to be 14 inches by 14 inches, with no rider keelsons; the houses on deck for officers and men something after the style of the S. F. Hodge, her engine to be 26x44 by 40, to be built by the Hodge Iron Works of Detroit; boiler to be of the Scotch pattern, 10 foot shell and 11 feet long, and two furnaces to be 40 inches in diameter. She is to be ready about the first of August. They say they have instructions to build as good as wood and iron can make her.

The frames of Hawgood & Avery's barge are almost all up, floor almost in and they have commenced the ceiling. About all the life there is in Bay City at present is around the shipyards.

The frames are also up for the small passenger boat for the Laketon's machinery, and they have commenced the ceiling. The repairs on three or four of the tugs, noticed before, are progressing finely.

At Davidson's shipyard they have a contract to build a big log boat, something like 300 feet long and about 50 feet beam.

G.

BUFFALO.

Special to the Marine Record

The Union Steamboat Company's propellers will receive a thorough overhauling, and all necessary repairs will be made to put them in first class seaworthy condition the coming season.

Captains John Prindeville and C. E Elphicke, of Chicago, were in Buffalo last Monday.

Captain Thomas Maytham is having the barge American Giant rebuilt by Joseph Robinson.

The steambarge George King, of Bay City, laid up at this port, will have her engine compounded by Messrs. Donaldson & Whitman.

Captain Joseph Gordon, of Bay City, is in Buffalo this week looking after the repairs which are being done on the steambarge J. P. Donaldson at R. Mills & Co.'s shipyard.

The barge R. J. Carney has been sold by Samuel Gibson to James Davidson for $4,000. She will be taken to Bay City and thoroughly overhauled in the spring.

Captains John Martin, of Buffalo, and J. V. Tuttle, of Milwaukee, will be the Inland Lloyd's surveyors to inspect all vessels at Chicago this year. Captain Martin leaves for Chicago to-morrow (Thursday) to commence work.

Captains John Rice and Geo. LeLeod will inspect all vessels between Toledo and Tonawanda, on the south shore of Lake Erie.

Captain J. Kenny will inspect all vessels from Kenosha to Escanaba, west shore of Lake Michigan.

Captain W. H. Rounds will inspect all vessels between Trenton and Alpena, including Saginaw.

Captain William Williams will inspect all vessels from Ogdensburg to Genesse River.

Captain W. D. Robinson, supervising inspector, left this city Tuesday afternoon to attend a meeting of supervising inspectors at Washington.

Captain James Gibson, inspector of hulls, arrived in Buffalo Monday noon from Liverpool. He has been paying a short visit to his friends in England, Scotland, Ireland, and the Isle of Man. He left Liverpool on the Cunard steamship Oregon at 1 p. m. on the 9th, and arrived off New York about 11 p. m. on the 16th. The run from Queenstown to Sandy Hook was made in six days, nine hours. The captain enjoyed his trip very much.

The annual meeting of the Drydock Association of the Lakes was held at the Tifft House, Buffalo, on the 20th, the following members were present: Robert Mills and his son H. J. Mills, representing R. Mills & Co.'s Drydock, Buffalo; M. M. Drake, representing the Union Drydock Company, Buffalo; George Presley, representing the Globe Drydock, Cleveland; Thomas E. Miller, representing Miller Brothers' Drydock, Chicago; James Mowatt, representing the Chicago Drydock Company, Chicago. George Presley was again appointed president and H. J. Mills secretary of the association. The card rate for 1884 of 20c. per ton up to 500 tons, 10c. per ton on excess over 500 tons, 10c. extra for cargoes, which rates are 10 per cent. higher than those for 1885, were adopted, and the meeting was adjourned to the third Wednesday in January, 1887, at the Sherman House, Chicago.

The suit of Schoellpopf & Matthews against Ward's line, for breach of contract, in the failure of the propeller Osceola to take a load of wheat from Duluth, has been settled by defendent paying plaintiff $500.

The annual meeting and election of the Buffalo Merchant's Exchange occurred today, the younger element predominating at the ballot-box. A ticket with Albert J. Wright, of A. P. Wright & Son, as President; S. F. Sherman, of the Sherman Brothers & Co. (limited,) as Vice President, and W. C. Cornwell, of the Bank of Buffalo, as Treasurer, was elected. President Hedstrom in his farewell address took strong ground against national aid to the Erie Canal. The report of the exchange waymaster shows Chicago and Port Huron as the only two ports having a larger number of bushels reported over than short, the former having 16-1,000 and the latter 253-1,000 over. Milwaukee was 290-1,000 short, Duluth 464-1,000 short, and Port Howard 394-1,000. The shortages for the year averaged less than a peck on each 1,000 bushels. The younger members of the Exchange are jubilant over their success, and intend to enlarge the work of the Exchange.

Joseph Supple, yacht and boat builder, has built a very handsome steam launch 29 feet over all, 6 feet 6 inches beam, 2 feet 6 inches deep. She is for sale. He is building a steam launch 35 feet over all, 7 feet beam, 3 feet deep for some Buffalo parties for use on Niagara River; also a number of row boats for Chautauqua lake. He is overhauling the schooner yacht May Bell owned by David Eckley. She will receive new spars of larger dimensions and new canvass.

Wm. Hingston & Son, yacht and boat builders, are completing a new life boat for Captain D. P. Dobbins.

The certificate of incorporation of the ship carpenters and calkers' beneficial society was filed for record yesterday. The object of the union is to unite fraternally all the local carpenters and calkers between the ages of twenty-one and fifty for social and intellectual improvement, the establishment of a fund for the relief of sick and distressed members and the payment of the funeral expenses of deceased members. The trustees for the first year are Louis Labby, James Marshall, Isaac Orr, Joseph Jackson, and Joseph Valley.

WILLIAMS.

SANDUSKY.

Special to the Marine Record.

Congressmen Romeis is devoting considerable attention to the harbor interests of his district, and has made frequent visits to Sandusky to ascertain the needs of this port.

J. C. & J. H. Davis, of Toledo, have sold the steamer J. K. Secor to William Senfert, of Port Clinton; consideration, $6,000. The Secon ran a portion of last season on the route between here and Canadian ports. She will be placed on the Oak Harbor, Port Clinton and Island route.

The repairs on the boiler of the steamer American Eagle will be completed in about two weeks, at the expiration of which time she will again enter commission, resuming her regular trips. In the meantime a ferry is run between here and the mainland by teams.

John G. Smith, of Fremont, is building a handsome side wheel steamer yacht to be used on the Sandusky river and upper Sandusky bay.

The steamer Jay Cooke is now in fine order, and will come out in the spring in tip-top shape, greatly strengthened by much needed repairs.

Captain Stephen Fetterly and Mr. Roose contemplate building a steambarge at Oak Harbor as soon as arrangements can be made.

J. C. Gilchrist, of Vermillion, was in the city last week in the interest of his vessel property.

F. K.

MARITIME LAW.

COLLISION—FERRY BOAT AND TOW—TUG WITH TOW MUST KEEP OUT FROM THE LINE OF THE PIERS.

U. S. District Court, Southern District of New York.

Brown, J.

On the 3d of February, 1885 as the canalboat Curtis was coming down the East River near the New York shore in tow of the steamtug Niagara, upon a hawser, she came in collision with the ferry boat Flushing, which was on her way from her slip at Seventh street to Hunter's Point. The canalboat was struck upon her starboard side by the ferry boat nearly head on, or a little upon the latter's port bow, the ferry boat's heavy projecting guard on a line with her deck crushed in and broke some twenty-three timbers of the canalboat's side, and the rudder blade in front made a perpendicular incision extending below the water line.

The most important difference in the testimony relates to the place of the collision; and on the determination of this point depends largely the responsibility of the one or the other. The witnesses on behalf of the tug, sustained by the libelant's witnesses, contend that the place of collision was about off the Eighth street pier, or a little above, and from four to six hundred feet out in the river. On the part of the ferry boat it is claimed, that she had not got out of her slip at the time of collision and that the cause of the collision was that the tug necessarily approached very near the New York shore, and on standing out afterwards, failed to clear the ferry boat, which was lying still in the water, or already backing under reversed engines. On the part of the tug it is claimed that the true cause of the collision was the failure of the pilot of the ferry boat to observe in time the tow behind the tug. Some support of the latter claim is undoubtedly found in the testimony of the pilot, who, in his report of the accident on the following day, stated that the collision took place while he was lying in the mouth of the slip, and that the tow exhibited no light; and the further fact, stated on the trial, that he did not see the tow until the Niagara opened to view off Eighth street or a little above, from behind a flotilla going up the river nearer the shore.

As to the place of collision, there is doubtless considerable difficulty in coming to any satisfactory conclusion on the testimony. Some five witnesses support the contention of the Niagara, while seven others sustain the contention of the ferryboat. The latter witnesses were undoubtedly in a situation to observe with more certainty, and the circumstances of the position were more likely to impress themselves accurately on the minds of those witnesses than in the case of the Niagara. (The Annie J. Pardee, 25 Fed. Rep. 157.) The details of the situation testified to by these seven witnesses are such that it is hardly possible to find that the collision was out in the river beyond the piers, without holding them all guilty of wilful fabrication. It is not so with the witnesses of the other side. Besides this, there are two other witnesses on the part of the ferry boat that also indirectly confirm her statement that she was more or less within the slip. Two of these nine witnesses were passengers on the ferry boat, wholly disinterested. While little weight would be given to their negative testimony in regard to things they did not observe, being matters not within their usual business to observe, such witnesses are all the more likely to observe accurately such obvious matters as the position of the ferry boat at the time in reference to her own slip. Regarding all the witnesses, therefore, as equally honest, the ordinary rule in dealing with conflicting evidence would require the courts to find in favor, not merely of the greater number of witnesses, but also of those who were in the best position to observe the situation accurately, and who would be least likely to make any mistake about it. In the preseht case that is clearly on the side of the ferry boat.

It is also very difficult to perceive how the collision could have happened at nearly right angles, or a little on the ferry boat's port bow, if the place of collision were out in the river, as the Niagara's witnesses state. The tide was ebb. The ferry boat in going out of her slip in the usual manner would be carried somewhat below, and in coming about in order to go to the westward of the Tenth street buoy would make a loop, somewhat in the shape of the letter S. Such is the usual course of the ferry boat; moreover she had exchanged with the tug a signal of two whistles, indicating that she would keep to the westward and let the tug cross her bow, which would naturally carry her still further to the westward than her usual course. Proceeding in this manner, the ferry boat, by the time she had got from four to six hundred feet out in the stream, would have been turned considerably to the northward. That is usually the case upon the ebb-tide by the time the boat gets opposite to, or a little above, the slip she has just left. Upon this course the collision would naturally have been upon the ferry boat's starboard bow, instead of being, as it was, nearly head on, or a little on her port bow.

Again, the evidence shows that the ferry boat, after the collision, returned into her slip by backing. Upon an ebb-tide; had the collision occurred out in the river, she could not have gone into her slip in this way by backing.

These considerations together satisfy me that the place of the collision was that which is stated by the ferry boat's witnesses, viz., before she was outside of the slip, or beyond the Seventh street dock. She had waited in the slip just after leaving the bridge for a flotilla, consisting of two steamtugs, all abreast, to go past up the river. They went from fifty to seventy-five feet only outside of the Seventh street pier. While they were passing, or shortly after, she received the signal of two whistles from the Niagara, indicating that the latter would also pass ahead of her to which she gave an assenting reply and waited for her to pass.

A collision, under such circumstances necessarily involves negligence in the tug, since she had no right to pass so near to the pier. The evidence of all the ferry boat's witnesses indicates that after passing the flotilla, the Niagara came down heading somewhat towards pier 7. The line of the piers above naturally tended somewhat to this result; and the freedom of the west shore from ice may possibly have added a further inducement. But the weight of evidence is that there was not so much ice as to justify the Niagara in going so close to the shore as she must have been at the collision, if, as I find, the ferry boat was not outside of the Seventh street pier. Having exchanged the two signals and lying within this slip, the ferry boat undoubtedly had the right to assume that the tug however she was heading before, would change her course in time to prevent coming so near in shore. She did change her own course so that at the time of the collision she was angling somewhat toward the Brooklyn shore. Many of the witnesses for the ferry boat describe the course of the tug and tow as forming something of a curve below Eighth street. When it was seen on the ferry boat that there was danger of a collision, her engines were backed, and she was backing full speed at the time of the collision. The tug passed clear by some twenty or twenty-five feet. In this situation I do not think the ferry boat is legally chargeable with fault, inasmuch as she reversed full speed as soon as she had any reason to suppose the tug would not keep off with her tow by a sufficient margin to clear her.

It further appears that there was no light upon the tow, such as was formerly required by rule 9 of the supervisor's rules, namely, "a white light on the extreme outside of the tow on either hand and also on the extreme after part of the same. But this rule appears to have been abolished prior to this collision.

The pilot testifies that he did not observe any lights on the tug. The weight of evidence is that her colored lights were set In his report, made the next day, as he mentions the absence of any lights upon the tug, he probably saw the tug's lights, but afterwards forgot what he observed at the time. Considering this report of the pilot, he was probably not aware that the former rule had been abolished. Nevertheless there is no doubt that, as he backed as soon as the tow was perceived, and as there was no lack apparently of proper watch, and from his position in the ship as he had no reason to suppose the tow would approach so near the ferry boat, I think the Flushing did all that can be deemed reasonable and obligatory in her situation, and, therefore, cannot justly be held in fault. The libel should, therefore be dismissed as to the Flushing, and a decree entered with a reference to compute the damages against the Niagara.

November 28, 1885.

In the senate Mr. Maybury introduced a resolution looking to a renewal of reciproca treaty relations with British America in respect to free navigation of the great lakes and the St. Lawrence river and canals connected therewith. The circumstances under which the treaty of Washington was abrogated have been changed and modified by time, he says, and unfettered trade and commerce between the United States and their northern neighbors would be beneficial and satisfactory to both countries.

CHARACTERISTICS OF MISSISSIPPI RIVER STEAMBOAT MEN.

BY THE SECCND ENGINEER.

Written for the Marine Record.

PART VIII.

There are so many processes to be used in getting a steamer off from a bar that one hardly knows which to give. One way is to get the spar in position and get a heavy strain on 'er, then set the wheels to backing in order to throw water under the boat. However a few trials of this sort generally end badly, for as the wheels throw up the sand it is liable to shut off the supply of water from the boilers, sometimes filling pumps and heaters with sand. It was on a steamer aground that gave to Bill—— the name of being one of the coolest men on the river. Bill was head engineer on a big four boiler boat up the Missouri, which getting aground along in the afternoon while Bill was on watch, had kept the "boss" pretty busy, so that when he went off at supper time he was tired enough to go to bed. The boat was still aground, and it was filling up around her pretty fast; still every time they set the spar they would "back her stronger both wheels." Finally away went the doctor; she had failed to draw any water and consequently run away. The second engineer at once rang the "fire bell," and sent a fireman up after the boss, but that gentleman was too tired to get up, so he sent word down to the second engineer to take off the "hot water caps and wash her out;" then Bill turned over to dream of sand bars and "backing blocks," while the second engineer snatched off the hot water caps as fast as he could, for it must be remembered there was plenty of steam behind it all. The doctor was washed out, the second engineer gave her steam, she run all right, but would not throw any water, a thing that was prettly badly needed by this time, with a hot fire and a big head of steam.

"George!,' yelled the second engineer; "go up in 'Texas' and tell the head engineer that the water is gettin' down and the doctor has quit."

The head engineer sent word back to open up everything, and take off the cold water caps and see if there was any sand in her, which order was faithfully executed, but with no avail, for the doctor would not throw, so once again the second engineer sent word to the boss that the "doctor" had quit and that the water was out of sight in the boilers.

"Go back," said Bill, "and tell the second enginner to draw the fires and then look and see if there is any water in the river."

On investigation it was found that the sand had piled up around the hull and completely shut off the supply pipe. And I may add this often happens in the Missouri and Upper Mississippi, in which case they actually get overboard and dig the sand away from the strainers. Sometimes they will spar all day or longer and without a move being made, when everybody will turn in, and sometimes the boat will wash herself clear of the bar, by the force of the current running under her. True, this is only one of the strange things that have happened.

The Missouri is called the "Big Muddy," and truthfully too, for its water is of a greyish color, from the mud. This naturally makes it hard on the boilers, and burning boilers is of common occurrence. Many a steamer has gone up the Missouri and cleaned boilers every night, and then burn them sometimes. The boilers of river steamers are externally heated boilers of the flue style, and have a drum connecting the boilers together from the under side, at about the third sheet from the forward end. The opening of this mud drum is always directly under the safety valve, it being a theory that the blowing off of the safety valve has a tendency to draw the scale and mud, in which case it falls down into the mud drum, and from there it is blown out every few hours. The water of the Missouri makes considerable scale, which sometimes gets so mixed with mud, that they settle on the forward sheets, and the water being thus kept from the iron the boiler is burnt.

FRENCH RIVER.

DETROIT, January 12, 1886.

To the Editor of the Marine Record:

I saw in a late number of the RECORD that a correspondent mentions several new places which have come to the surface very recently. I wish to say a few words in reference to an old place, French River, Georgian Bay. It may be of some use to some of your readers, and promises to be in the near future a place of considerable importance.

The Ontario Lumber Company has cut several million pine lumber, and another firm, McLean Brothers, started to cut logs this winter, and will, I understand, put up a mill next summer and intend to carry on a large lumbering business. At French river, where the mill is located at present, is sixty miles from where the logs are cut. They are then hauled a few miles to the river and a tug tows them down, forty miles, to the falls; they are run over the falls, then another tug takes them down the river, to the mill.

Anyone, to rely on, Barnet's Coast Pilot would say this is a very easy place to sail in The Coast Pilot has the courses, range lights, etc., all nicely explained, as well as two and one-half pages of buoys, all numbered and located in fine style, not one of which can be found or has been seen by the oldest resident.

The Outer Bustard should not be approached nearer than three miles until it bears due east, when you can run E.N.E., till abreast of the lighthouse, then E. by N. till the outer ranges are on. Keeping the outer lighthouses in course, over the stern, you will then be about N.E. till the inner range, or the two lighthouses (the one on Depot Island, so called, and the one near the mill), are in range. These ranges run you very near the rocks, and a sail vessel must have at least a four knot breeze to get in against the current, one and one-half miles per hour. These inner lighthouses, so-called, are open frame structures, perhaps fifteen feet high, and the lights can be seen but very little farther than from one lighthouse to the other. After getting inside you can run alongside the rocks, which are steep and answer for docks, all the lumber being piled upon them.

A. C.

ELEVATOR CHARGES.

A correspondent writes to the Inter-Ocean as follows:

It is not to the interest of the elevator owners to continue the present high charges for storage. With the very large amount of grain now in store at current charges their profits must be enormous, and the temporary advantage to them, of course, very great. But how is this to effect their business in the future when it shall be shown that they have, as you express it, "killed the goose that laid the golden egg?" The elevator men, following the example of their confederates, are evidently determined to "charge all the traffic will bear;" but this rule did not work well in the matter of transportation, and it will be equally as certain to fail if applied to storage charges. This is an exceptional year, the amount of grain in store is unprecedented, and the owners of it are, of course, entirely at the mercy of the storage men. The grain is, as you have shown, being literally eaten up; not by human beings, nor by rats, but by "charges." Every bin is full, and to keep it in healthy condition the elevator men are obliged to change about some of the grain that has been the largest time in store. The owners of the grain find a pretty difficult task to keep up with the charges and prevent the bears from destroying the value of their property. I have collected some facts in regard to the cost of construction and opperation of an elevator, which I give below. If I am in error in any particular I should be glad to be apprised of it by some gentleman engaged in the business; they are, of course, very familiar with the details, and can readily detect any errors or omissions. An elevator of a capacity of 1,250,000 bushels would cost, at present prices of labor and materials, including cost of machinery, about $250,000. Such an elevator would handle, this year, about 7,000,000 bushels of grain. The rates of storage on this grain would vary from 1¼ cents for the first ten days to 4 cents for full winter storage. Much of the grain would remain in the elevator a very short time, so that the 1¼ cent rate would be earned several times over. It is fair to presume that the average rate for a year on each bushel of grain would not be less than 2½ cents. This, on 7,000,000 of bushels, would produce $175,000.

The expenses for running the elevator, making a liberal estimate for each item, would be about as follows:

Interest on cost	$15,000
Rent of ground	15,000
Repairs	7,000
Fuel	1,500
Insurance	3,000
Taxes	2,000
Office expenses	10,000
Incidental	5,000
Labor	10,000
Total	$68,000
Net profit	$107,000

or over 40 per cent on the cost of the building, but I believe the profits are much larger than this. I have made a very liberal allowance of expenses, probably they are too high. In the item of labor I include one engineer, one fireman, and twenty men for shoveling and weighing in, delivering, and receiving. Office expenses I call $10,000, which includes salaries and office expenses. In this item I do not include any fat salaries. I am told that one gentleman alone has been drawing a salary of $10,000 a year for services in superintending a single elevator owned by a stock company, and that some of the shareholders regarding this as rather too soft a thing have applied to the courts for an accounting, but it is more than likely that the matter will be settled outside of the court room; but if it is not, the public will have an opportunity of gathering some inside facts as to how grain elevators are run in Chicago, which will prove exceedingly interesting.

MILD STEEL.

The accumulation of practical evidence from the actual observation of engineers is now so much more common than hitherto, that very valuable deductions may be frequently made from such accumulated evidence for the benefit of the profession at large. One of the least known materials at the present day is mild steel. It has fought its way into general use against a deal of early prejudice, and is now generally accepted upon a clearly definite basis of strength and dimensions, and readily passed the inspection of Lloyd's surveyors. From time to time, however, reports of the extraordinary behaviour of mild steel come to hand, showing that in many respects its behaviour is as yet a mystery to the makers and users. The most serious feature of this abnormal conduct on the part of mild steel is that which affords no evidence by any known species of test as to its fragile condition, and the breakage may therefore arise suddenly and unexpectedly, and consequently with the most disastrous results. A report of this kind that we may refer to is that afforded by Mr. Arthur J. Maginnis, M. I. N. A., with regard to the sudden and unexpected breakdown of a series of six boilers constructed of mild steel, after about two and a half years' satisfactory working. After that period, the boilers began to develope serious cracks all over their inside and external shell, some of them developing when there was no particular strain upon the boiler and with a loud report. On further examination, and the occurrence of further cracks, generally resulting it might be noticed from the test by the hammer, it was decide to take the boiler to pieces and replace them; but on attempting to do so, the whole boilers seem to have almost tumbled to pieces, cracks developing in every direction, and the parts removed coming away in fragments. Perhaps the most extraordinary feature of this case is that no testing of the material itself in small pieces afforded any indication as to the inferior quality of the material. Strips of the metal, tested both at the time when the boilers were made and after the fractures, passed the test machine triumphantly and with good credit as to strength and ductibility. The plates also worked in a satisfactory manner, welding, flanging, and bending without the least trouble. Hence, evidently such a test strip affords no indication of the condition of plate considered as a whole. Whether the plates from the first were in a condition of abnormal internal tension, rendering them liable at any time to crack under jar or strain, or whether they acquired this property after the two and a half years of use, is the mystery which at present we have no data to solve. This is a most alarming consideration for marine engineers, since now that high initial boiler pressures are used, any explosion of the boiler will probably blow the bottom of the vessel out, or so damage it that immediate foundering is almost certain to ensue. We hear now of so many vessels which disappear in mid ocean without any clue to the nature of the disaster, that one may easily be led to anticipate all sorts of mysterious accidents producing so dire a result. Perhaps the sudden failure of a mild steel boiler may be one of these hitherto unrecognized risks. It is evident, at any rate, that either with mild steel or iron boilers, now that such high initial pressures are being generally adopted, the only boiler affording reasonable safety to the structure of the vessel in case of sudden disasters, would be a multiple water tube boiler, on the principle of many so-called safety boilers now largely in use on land. It would be interesting to collect from our practical readers any accumulation of evidence as to whether any vessels, lately mysteriously foundered at sea, were fitted with modern high pressure mild steel boilers.

It is not only to boilers and plates that this mysterious action of mild steel is confined, as it has been reported from the North of England that a keel strake, after being duly bent, punched, countersunk, then annealed in the usual manner, and finally rivetted to the ship's frames, began to crack in a mysterious way after the affixing was finished, and, of course, had to be removed. After being cut out, strips were taken from the cracked plates and tested in every conceivable way without any definite result being arrived at as to the cause of the failure, the strips showing a suitable amount of strength and ductility. It seems also that further failures, similar in kind, but much greater in extent, have since taken place—steel angle frames being included as well as steel plates. Although all this material has been duly inspected, tested, and passed at the maker's works by Lloyd's surveyors, it seems to have failed after working in an unaccountable manner. As a most forcible and experimental instance of the treacherous character of such steel, we may recount the following tests made upon a few bars selected from a quantity of angle iron delivered to a ship yard. All these bars had successfully passed Lloyd's surveyors at the maker's works. At the shipbuilders, by hammering cold for 2 or 3 feet from the end, they were opened out and flattened down. There were no signs of giving way. They were then folded double, unfolded, flattened out, and refolded without apparent effect. They were then lett alone. Next morning the portions so tested of these angle bars were found broken in pieces, a result due apparently to the internal strain set up by the cold bend. This is an action entirely peculiar, as far as we know, to mild steel as regards shipbuilding material, no such secondary action in wrought iron having ever been experienced. It is, therefore, a very great danger to shipbuilders and shipowners unless forewarned as to this possible peculiarity of a compartively new material. The nearest approximation of which we know with regard to this peculiar secondary action is in the case of cast iron, in which it is well known that spontaneous fracture will occur either during working in the lathe, or afterwards when in actual employment.

It is too near guessing in the dark to attempt to form a correct opinion as to the cause of this spontaneous fracture in mild steel, but we can, at any rate, for the benefit of our readers, point out some analogies and their causes in the spontaneous fracture of cast iron, and, at the same time, may possibly have occasioned the disasters in question. It will then be for the practical users and workers in mild steel to supplement our theory by their practical tests and experience, so as to save that most useful of materials, mild steel, from any imputation of mystery or unreliability; and the sooner this is done, the better for the steel trade and shipbuilders at large. First then, as to an analogy in another metal. The spontaneous fractures of cast iron are well known to result from irregular contraction in the mould when cooling, and it is not difficult to reduce the law of such fractures to a distinct science. This science may be broadly defined to be that the exterior portion of a casting is apt to cool and set rigidly uniting the outside circumference is then strained abnormally in tension by its subsequent cooling, after the circumferenee has already rigidly set. This law applies to and explains spontaneous fractures in cast iron riggers, where the fracture chiefly occurs in the arms uniting the rim as rigid diameters, and also in the case of cast iron plates in which spontaneous fractures, developing in the center of the plate, and seldom traveling completely outwards to the circumference, are known to develop from exposure to the weather. It is possible that all mild steel plates are liable to this development of internal abnormal tension, which may not be sufficiently great to develop immediate fracture when worked, but which will afterwards develop by exposure to alternate heat or cold, or by the jar of the rivetting hammer, or by the hammering necessary to effect the bending and working. If this is so, it will explain the fact that strips cut from such plates do not in any way indicate this peculiarity, since the moment a strip is removed from the plate, the abnormal tension is thereby relieved and the metal in itself is found to be sufficiently tenacious and ductile. Another possible cause for the development of brittleness in steel which, to a great extent, applies also to wrought iron, is the development of crystallisation by vibration or jar, and this vibration or jar may be set up in many unrecognised ways. For instance, the large amount of hammering necessary for rivetting up by the hand hammer may in itself materially affect this molecular change. The frequent vibration of the escape of steam from the safety valve is of a character possibly sufficient to develop this change. The constant vibration of the engine, working in close proximity to the boilers, may also be sufficient to effect this. A further important agent in molecular change is electricity, and at present the allpervading nature and character of electrial currents is by no means sufficiently recognised. We note as one peculiarity in the case of the six boilers, to which we have above referred, as forming such a striking example of unaccountable failure, that they were treated from the first by the zinc method for the prevention of deposit. That is to say, zinc was constantly supplied to the interior of the boiler and removed as fast as it dissolved and disappeared, this being a frequent and well known method for the prevention of calcareous deposit on the heating surface. It may not however, be generally recognised that this method simply converts the boiler into a gigantic battery, electrical action being indicated by the gradual dissolution and disappearance of the zinc, and it is the consequent electrical current that prevents the adherence of the calcareous deposit to the heating surface. Whatever may be the effect of such continuous electrical currents upon such a susceptible and comparatively unknown material as mild steel can only be a matter for conjecture, but it may prove very serious.—*Marine Engineer, London.*

The outlook for loggers in the districts comprising the Chippewa, Eau Clair, Black, and the St. Croix rivers, was never more encouraging than at the present time. There is a little too much snow on the Chippewa and Eau Claire to expedite work, but the surplus is being packed, and the roads for hauling could hardly be improved. On the Black and St. Croix the snow is of just sufficient depth to allow rapid progress of the work. The forces are being increased to make up for the shortage of the cut in December, occasioned by the mild temperature. During the cold snap of the past week, the sprinklers were put in constant service, making the roads as solid and icy as if cold weather had prevailed all winter. Men and teams are no more a drug in the logging market, but each are in demand at better compensation than was paid last year. The lumber market in that center has been exceedingly dull since the snowfall, and no revival in the trade is looked for before early March. Dealers are not anxious to fill orders at present prices, but confidently look forward to an advance in prices to take effect in February.—*Inter Ocean.*

A company of Eastern capitalists is about to be organized for the purpose of erecting elevators along the various lines of railroad in North Dakota, which will be conducted on an entirely new plan. They propose to furnish to each farmer a separate bin in which to store wheat, and in this way, when he is ready to sell, he can always get the identical wheat which he delivered. They also propose to loan money at 7 per cent interest, to be secured by wheat in store. The gentleman who is working the matter has spent much time in Dakota and is said to be quite confident of the success of his scheme. Just when they will begin building operations is not known, but it will probably be early in the spring.

ROBERT BRAYTON.

Robert Brayton died at his home in Fremont, O., at 11:15 a. m., on Thursday, December 10, 1885, in the 84th year of his age.

Robert Brayton was born in Cranston, near Providence, Rhode Island, July 27, 1802, of American parents. His father was a farmer, and he assisted in the cultivation of the farm until he was twenty years of age; his education was obtained during the winter months in the district school. In 1822 he began work in a machine shop in Providence, where he remained two years, learning the machinists' trade, and was afterwards employed as foreman in the same establishment and engaged in the fabrication of cotton and woolen machinery.

He came to Cleveland, Ohio, in 1835 and accepted a position with the Cuyahoga Steam Furnace Company, where he continued for seventeen years, the last eleven years of that time being master mechanic. He built the first two passenger locomotives that were run on the Cleveland & Columbus railroad. Mr. Brayton contributed as much as any one man to the success of the Cuyahoga Furnace Company.

In 1852 he was appointed government inspector of steam boilers for the port of Buffalo, N. Y., holding this responsible position for five years. During that time he invented and became the patentee of the celebrated hot-pressed nut, the right of the manufacture of which he sold in England for a large sum of money.

He then returned to Ohio, settling in Salem, where for four years he was engaged in the distillation of kerosene oil from coal tar, being one of the earliest and most successful manufacturers in this line. The discovery of petroleum in the oil fields of Pennsylvania greatly injured the business, and Mr. Brayton suffered heavy loss. From there he went to Canada where for several years he continued in the manufacture of kerosene. The works there were twice destroyed by fire and on one occasion when the still exploded Mr. Brayton was severely burned. The yield of petroleum from the oil wells continued and Mr. Brayton's business was ruined and his financial loss great.

In 1865 he was offered and accepted an interest in the engine works of June & Curtiss, at Fremont, the senior partner, Mr. D. June, having known and worked with Mr. Brayton many years in Cleveland. He continued a member of this firm, afterward the firm of D. June & Co., for seventeen years, but from failing health and age was compelled to retire about three years ago. He was constantly engaged in machinery business for more than fifty years, and was protably the oldest machinist in the United States.

Mr. Brayton was a man of stalwart frame, a strong constitution and of great power of endurance. On one occasion in 1837, by the capsizing on Lake Michigan, at Milwaukee, of a small boat containing nine passengers, seven were drowned; Mr. Brayton saving himself and the mate by his great strength and courage.

April 20, 1847, Mr. Brayton was married to Miss Lucy Harris, of Buffalo, N. Y. To them was born one son who died about five years ago. Mrs. Brayton did not long survive her son. Since his disability two brothers have died, one a successful minister of the Baptist church. Two brothers living in Providence, Rhode Island, survive him.

Mr. Brayton possessed many excellent qualities: Industry, honesty, patience, and promptness in business, benevolence and all kindness and charity to the poor. In him the elements of noble manhood were well developed, forming a character worthy of imitation by young men. He became a Christian many years ago, and united with the Congregational church in the Dominion of Canada. Some few years since he was confirmed as a member of St. Paul's Episcopal church in this city.

The funeral services were largely attended; pall bearers were Gen. R. B. Hayes, Dr. T. Stilwell, Stephen Newcomer, Col. Wm. E. Haynes, C. H. Bell and F. S. White. The remains were interred in Oak Wood cemetery.—*Fremont Messenger.*

OFFICIAL NUMBERS AND SIGNAL LETTERS.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, WASHINGTON, Jan. 11, 1886.

To the Editor of the Marine Record:

Following is a list of merchant vessels of the United States to which official numbers and signal letters were assigned by the Bureau of Navigation, Treasury Department, during the week ended, Jan. 9, 1886:

Official Number.	Signal Letters.	Rig.	Name of Vessel.	Tonnage. Gross.	Tonnage. Net.	Home Port.
			SAIL VESSELS.			
157,171	.....	Sc.	Duck Hunter,	.....		Utsalady, Wash.
95,870	.....	Sc.	Helen Blum,	66.17	62.87	San Francisco, Cal.
			STEAM VESSELS.			
106,397	.....	St. s.	Alice Howard,	40.90	32 38	Jacksonville, Fla.
140,812	.....	St. p.	Lake City,	44.00	35.80	Vicksburg, Miss.
110,669	.....	St. s.	Rescue,	75 43	37.72	Philadelphia, Pa.

JARVIS PATTEN, Commissioner of Navigation.

Vesselmen

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LAKE SHORE & MICHIGAN SOUTHERN.

Commencing Sunday, Nov. 29 1885, at 12 o'clock noon the time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

Eastward.	Arrive.	Depart.
No 4, Fast Limited Express	*2 55 A M	*3 05 A M
No 8, N Y, B & A Express	*8 25 A M	*8 50 A M
No 26, Elyria Accommodation	†7 45 A M	.....
No 24, Buffalo Ac'm via Sandusky	†10 30 A M	†10 50 A M
No 24, Toledo Accom via Norwalk	†10 30 A M	†10 50 A M
No 12, N Y & B Fast Express	*2 10 P M	*2 45 P M
No. 14, Special New York Ex	.....	3 00 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*12 15 A M	*12 25 A M
No 23, Mich Express via Sandusky	*2 15 A M	
No 3, Chicago Express via "	*6 00 A M	6 30 A M
No 25, Mich Accom Norwalk	.....	†6 30 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 30 P M
No 5, St Louis Ex via Sandusky	*10 50 A M	*11 00 A M
No 9, Chi Pac Ex via Norwalk	6 15 P M	*6 40 P M
No 31, Elyria ac to Elyria only	.....	†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	.....

Sunday train for Nottingham—Depart 8:15 a. m. and 1:45 p. m.; returning, leave Nottingham at 8:50 a. m. and 6:45 p. m.

Reference marks—* Daily, † daily, except Sunday, ‡ daily, except Monday.

A local Cleveland and New York sleeper daily on No. 12, leaving Cleveland at 2.45 p. m.; arrive Grand Central depot, New York, 10 30 a. m.

For full information as to trains and connections apply at the Union ticket office, corner Bank and Superior streets, under Mercantile Bank.

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Following is the time in effect June 28, 1885, and until further notice:

EASTWARD.	Arrive.	Depart.
Buffalo Accommodation	*10 40 A M	*10 45 A M
Chicago Accommodation	*9 02 P M	.....
Local Freight	*11 45 A M	*12 15 P M
WESTWARD.	Arrive	Depart.
Chicago Accommodation	.....	*6 45 A M
Fostoria Accommodation	*4 46 P M	*4 51 P M
Local Freight	*12 20 P M	*12 50 P M

ROCKY RIVER ACCOMMODATION.

Depart—*7:45 a. m., *1:35 p. m.

EUCLID ACCOMMODATION.

Depart—*6 24 a. m., *9:10 a. m., *5:05 p. m.

*Daily except Sunday.

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Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building] Cleveland, O.

A. A. POMEROY, EDITOR AND PROP'R.

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Also, Miss McCabe, Elk Street, near Ohio

DULUTH, MINN.—C. F. Johnson, 117 West Superior Street.

ESCANABA, MICH.—Wm. Godley.

Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

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CLEVELAND, OHIO, THURSDAY, JANUARY 21.

LAKE CARRIERS' ASSOCIATION.

The principle of union in which, as a rule, there is strength and concurrent action, has been wisely applied in the formation of the Lake Carriers' Association, an organization embracing the owners and authorized representatives of steam and sailing vessels navigating the great lakes. That this large and diversified interest can and will be greatly benefited by such an association can not be questioned. In fact, the wisdom of the organization has been practically demonstrated by the results already accomplished. The plan of the association is simple, yet effective. It brings together by efficient organization, men widely separated geographically, yet whose commercial and business interests are identical. The general interests of the association are looked after by a board of managers, auxiliary to which there is a local committee at each port, selected by the members representing the registered vessel tonnage at that port. It can be seen at a glance how the association can thus be made of great and permanent benefit to the marine interests, reaching from the St. Lawrence river to Chicago and Duluth. There are constantly arising complicated questions regarding marine laws and the individual and collective rights of vessel owners, which it is difficult for individuals to satisfactorily adjust without great expense and trouble, but which the officers of this association, aided by the counsel and combined experience of the members, can handle successfully, economically, and rapidly.

A case in point is the pamphlet just issued by the board of managers, giving able legal opinions and other valuable matter relative to the Canadian wrecking laws, the biased, and at all times one-sided interpretation of which has been a source of perplexity and expense to vessel owners on this side. The association has taken hold of this question in a vigorous manner and at the right time, and the analysis of the laws involving wrecking privileges by eminent Canadian counsel and the construction placed thereon, are in themselves almost equal to a virtual settlement of the question; or, as near a settlement as can be obtained without a test case, occasion for which will be made if necessity requires, to demonstrate the logic of the opinions referred to above and printed on another page of this edition. In any event these opinions, if closely studied, will give all United States wreckers, and masters of steam vessels with tows, the assurance to release their consorts if they should by the chance of a few inches too much draft, or by the perils of the sea, ground or go ashore in Canadian waters.

IT gives us pleasure to acknowledge obligation to Jarvis Patten, Commissioners of Navigation, for a copy of his annual report for the year 1885. Since the bureau of navigation was established and Mr. Patten appointed to its head, in 1884, more light has been shed on the condition and status of the merchant marine of the country than during the previous ten years. The needs of navigation, of the commerce of the country, and relief of ship owners and shipbuilders have been more persistently placed before the country than had heretofore obtained. The country is to be congratulated on the prestige that a man of industry, like Jarvis Patten, has given to the interests of navigation.

THE FREIGHT SITUATION.

Occasion was taken in a previous issue to outline the business promises of the year now upon us and to progrosticate a good season and profitable rates for lake carriers. We did not calculate on any artificial or crazy boom; but on a steady and persistent demand for the transportation of produce that gives business to lake carriers. It is not our province to mislead any one with enthusiastic or flowery opinions but we insist that there is now the same steady but moderate and healthy improvement in all lines of business that obtained a fortnight since.

While no new contracts for the transportation of ore have been entered, it is believed that furnace men and operators are laying plans which will constitute them masters of the field. It is possible that those most directly interested have aided vessel owners in putting the price of freight at a good figure, say $1.10 from Escanaba, $1.35@1.40 from Marquette and $1.40 to $1.45 from Ashland and Two Harbors to Ohio ports, and made their rates to consumers on this basis. After having secured their contracts at good prices they can afford to lay back and say to the vessel owner. "The demand has flattened out and we cannot pay the prices on freight you quoted us two weeks ago." This is a situation that the best posted vessel owners are guarding themselves against and it is likely that no further contracts of any magnitude for the transportation of ore will be made until February.

A TELEGRAM from Toronto states the commissioners appointed by the government to investigate the cause of the wrecking of the steamer Algoma in Lake Superior last fall have reported, censuring Captain Moore and Chief Officer Hastings. Captain Moore's certificate is to be cancelled for nine months and Hastings' certificate for six months. There is nothing in this report to show the cause of the disaster and as Captain Moore made no defense, independent of the company which he represented, it is to be understood that his punishment will last quite long enough to enable the company to build another steamer for the route by the time his suspension expires, While we believe that Captain Moore did everything in his power to save his passengers after the steamer went on the rocks it can readily be believed that if he had not followed his orders too implicitely he and the Canadian Pacific corporation would not have been accountable for the lives lost. Taking a common sense view of the disaster we see no reason why this aggressive railroad company should not be made to conform to the international laws of navigation.

IT is contemplated by the lighthouse board, and a bill has been introduced in the house, to establish two new lighthouses on western waters. One proposition is, as advised in these columns some months since, to divide the Eleventh District, which comprises Lakes Huron, Michigan and Superior. This district contains 139 separate light stations, and covers 2,500 miles of coast line. No inspector can properly go over the district and attend to his other duties. He is required to visit each of these stations quarterly, and pay the keepers. It is proposed to divide the district which embraces Lake Michigan and Green Bay, to be set off and called the Seventeenth District, and the portion which embraces Huron and Superior retaining the old name to be called the Eleventh District, retaining the headquarters at Detroit. This is a matter of considerable interest and the requirements of the service will be much better considered.

COMMISSIONERS, in the interest of the fisheries of the lakes, are making strenuous efforts against the renewal of the fisheries clause in the treaty of Washington. They are distributing copies of a petition addressed to the Senate and House of Representatives, which are being largely signed and which read as follows:

The undersigned citizens of Cleveland, in the state of Ohio, respectfully, but most earnestly, petition your honorable body against any action involving a renewal or extension of what is known as the treaty of Washington, or the reciprocated treaty between the United States and the Dominion of Canada, so far as the same relates to the question of American fisheries. We urgently protest against the appointment of any joint international commission to consider the renewal or adoption of such a treaty, believing the same to be adverse to American interests, and the policy of such treaty is to subserve the interests of the Dominion fisheries at the expense of American interests.

ONE of the most curious and important facts regarding the use of oil at sea in stormy weather to calm the waves is its apparent novelty to seamen. When in last extremity, some of them 'happen to think of oil,' and, on trying it, find that the sweeping waves no longer break over their decks, and that the vessel rides with comparative ease where it labored heavily before. This is much as if a captain 'happened to think of the rudder' when he wished to shape a new course. The hydrographic office is accomplishing an excellent work in popularizing the practical value of this simple means of escaping danger.—*Science.*

THE villiage concil at a recent meeting took steps in accordance with the recommendation of Congressman Romeis, toward presenting to the Congressional Committe on Harbor Appropriations a statement showing the present condition and needs of the harbor at Huron. The document will contain a sketch of the harbor, with dilapibated portions of the piers noted, a discription of the property already washed into the lake and the outline of a plan suggested to prevent the further encroachment of the water. This plan will consist of a system of piles driven in the lake a short distance west of the west pier and parallel with the pier, forming a sort of breakwater. It is believed that the eddy which the breakwater will create will cause the sand to collect and form a new beach. An appropriation of $50,000 will be asked for, and it is beleived that this sum can be judiciously expended.

IT is reported that the House committee on rivers and harbors has resolved to limit the appropriation on rivers and harbors, not to actual requirements, but to $11,000,000. As this is not as much of a limit as was experienced last year there is some hope that the now delapidated public improvements will be placed in the condition they were at the close of the season of 1884, so that a deliquency in the river and harbor bill for 1887 will make their destruction again possible. The requirements for the work contemplaed will reach $25,000,000 and the application of any lesser sum to repair the damages that will show on the opening of navigation and the prosecution of new work, will not be of much avail.

CAPTAIN C. D. VAN NORMAN who was reported in these columns as having been appointed to the command of one of the Toledo & Saginaw transpoatation boats, denies the truth of the statement, saying there is no foundation of fact in the report, and we hasten to correct it.

REPRESENTATIVE DINGLEY has introduced a bill in congress to encourage American shipbuilding for the foreign trade, and also a resolution directing a proper committee to inquire what legislation will promote the interests of American marine engaged in the fisheries.

ANSWERS TO CORRESPONDENTS.

INSURANCE—Likely the same, as the problems can not be solved in the same way by different writers. The only way one can tell, however, is that the article appeared in the MARINE RECORD Thursday and Marine Journal of New York Saturday. After the fanciful arrangement of the ideas and abrupt conclusion in the latter paper January 9, it is not probable that he will do it again.

READER—It is not published now. After a short but bright career, too bright, it was turned into a monthly magazine and never came out again.

MILWAUKEE WHALE—Yes, captain, go across the Viaduct and up Detroit street until you come to Van Tassels, where you go up a stairway from the street (if no one is looking) and if you dont hear any one say bob-tail flush when you get to the first landing, keep on going until you do hear the expression. Go in, you will find them all studying circle sailing by pairs.

ENGINEER—NO RECORD was issued holiday week, December 31, so that the dailies could catch up and to give subscribers time to reniew. Therefore do not ask for No. 53, Vol. VII. Hope all will appreciate the courtesy. Will go ahead now at full speed.

VESSEL NOMENCLATURE—Yes; it has been named but no one except the two senior members of the firm known what the name is and they hold it strictly a business secret. The initials however are J. H. Outhwaite.

NIAGARA—You are correct; after the convention adjourned some of the visitors did go to the Falls, where one of them had a deal with a hackman; but, after the wheels of justice had been lubricated by a merely "nominal sum" they were permitted to return to Buffalo.

For Sale for $4,000 Cash.

Schooner Geo. C. Finney, class A2½, carries over 600 tons, or 20,000 bushels of wheat. Her hull is in good condition; foresail and mainsail almost new, light sails in fair condition. She is laid up at Racine, where she can be inspected.

Address MARINE RECORD OFFICE.

MARINE ENGINEERS' CONVENTION.

BUFFALO, January 20, 1886.

Special Correspondence of the Marine Record.

Last week I sent you some particulars of the opening of the eleventh annual session of the National Marine Engineers' Beneficial Association at Buffalo, with names of representatives, etc. The delegates stuck well to their work at their daily meetings, as the large bundle of notes of proceedings brought along every evening by Secretary Harris to the Mansion House, where he and his brother delegates were quartered, clearly proved.

Wednesday afternoon the delegates paid a visit to Niagara Falls, and enjoyed their trip exceedingly. Thursday morning a memorial service was held in memory of Garrett Douw, the oldest past president of the association, who died at Buffalo, June 13, 1885, and a splendid eulogy upon him was delivered by Secretary Harris, and a committee of three delegates were appointed to call upon Garrett Douw's daughter at his late residence, 245 South Division street, and condole with her upon the loss of her much esteemed father. Thursday evening a banquet and ball, given by Buffalo Association No. 1, in honor of the delegates, was a very enjoyable affair, and was largely attended by the members of the association, and their friends with their sweethearts and wives was a great success. After the banquet a number of toasts were given and ably responded to by the delegates and others, and a poem was recited with great force and ability by Secretary Harris, whose powers of oratory were much admired. The poem will be published in our next issue. Dancing was kept up with much spirit and enjoyment until the small hours began to get larger, when all departed for their homes tired and happy.

The business of the session closed Saturday morning at noon. Their next meeting will be held in New York the first Monday in January, 1887.

The following officers were appointed for the ensuing year:

President, Henry G. Payne, Buffalo.
Vice President, E. P. Watson, New York.
Treasurer, J. H. Galway, Detroit.
Secretary, J. H. Harris, St. Louis.
Past National President, Andrew Ritter, Chicago.

W. E. Russell, of Ptttsburgh, was appointed Grand Deputy of the N. M. E. B. A., for the United States. He was national president in 1884, and past national president in 1885, and no better man could be appointed, as he is a thoroughly practical engineer and has the interests of the association at heart.

All the delegates departed for their homes Saturday with the exception of J. W. Shea, J. H. Wilson and Secretary Harris who left Buffalo Sunday morning to attend a mass meeting of the association at New York on Monday.

With such excellent men as the association was represented by at Buffalo it cannot fail to be a great success. Especial praise must be accorded to Secretary Harris, whose untiring efforts to oblige and please every one, gained a theme of praise from all.

W.

The canal boatmen are raising a fund to erect a monument over the grave of Peter Cummings the driver who drove the first boat that made the trip from Buffalo over the canal, in 1825. Dewitt Clinton stood on the bow of the boat and gave the word to start. The boat was called "The Young Lion of the West," and was drawn by nine horses decorated with flags and ribbons. Cummings remained driver on the canal until he was seventy-five years of age, when he was drowned in the canal at Pendleton. His remains are buried at Tonawanda.

[*Around the Lakes Continued from 1st Page.*]

CHICAGO.

Special to the Marine Record.

The annual meeting of the Chicago Drydock Company was held at their office 384 Fifth avenue on Thursday the 14th. The former officers were re-elected by unanimous vote, viz.: W. H. Wolf, president; Thos. Davidson, Secretary; James Mowatt, Superintendent and Treasurer. The amount of work done during the past year was fair considering the general depression in vessel business. At the present time the company are very busy rebuilding, etc., and are employing some 75 men.

The tug Viva will go in Chicago drydock for a new shaft and bottom calking.

At Miller Brother Drydocks the propeller Fayette will go in and receive new steel arches which will be supplied by Donaldson Brothers, shipsmiths.

The schooner James Mowatt has been loaded with flaxseed at the Galena elevator, for Buffalo.

The schooner J. D. Sawyer has taken on a load of corn for Buffalo.

The schooners C. A. King and Pewaukee have been sold. W.

DETROIT.

Special to the Marine Record.

Jan. 19 —In taking the rounds along the docks yesterday, and visiting brokers, shipowners, agencies and other places I was astounded by the abject and somewhat disconsolate appearances here in midwinter, far beyond previous recollections. My first call was at Mr. Cheesebrough's, foot of Third street. Anything new? Not a thing. Any visitors? No, we are too far one side for callers. At Murphy's no admittance, or at least the door was locked and nothing short of a crowbar would have effected an entrance. At Captain Grummond's office all was serene, but for the present there was nothing to offer. A call at the Detroit & Cleveland Navigation office elicited the information that Captain Duncan McLaghlan, of late seasons master of the steamer Northwest, would command the new steamer City of Cleveland, a promotion highly deserving and well merited. The Star line offices are entirely deserted and no one save the watchman near the surroundings. Next in line is J. B. Baker, who was quietly attending to business, but had nothing to say, either as regards the Oconto or other matters. J. T. Whiting, the Detroit manager of the Lake Superior Transit line, was absent at Washington, on matters regarding the purchase of the Portage Lake canal by government. In his office E. G. Merrick, Esq., the venerable ship owner, was quietly pondering over the last issue of the MARINE RECORD. Some of their vessels are for sale on reasonable terms. There is an unusual quietness at the sail lofts and but little going on of importance. J. M. Jones & Son, shipbrokers, and C. A. Chamberlain, ship owner, offices together, also report everything apparently dormaut, save a few callers, discussing the question of "What are you going in next season?" which for the present is a knotty problem. At Mills' tug office all is quiet. Mr. Rising, bookkeeper, is constantly there, and in his genial way always ready to impart any information at hand. Next door is P. M. Weed and Captain E. B. Payton, who are always ready to offer you a seat and talk over future prospects.

For the lack of timber, owing to bad roads, the new steamship at the Detroit Drydock, partly in frame, is not rushing very fast, and for the present but few men are kept employed.

John Craig, the wide awake ship builder, whom I met in D. Whitney, Jr.'s office, with Captain B. Welch, has arranged to construct a steamship in his yard at Trenton for the latter gentleman, the keel for which is now being laid down. The dimensions are: Length 250 feet, beam 39 feet, depth of hold 19 feet. It is calculated she will carry about 2400 tons of ore. She will be completed about July 1. The Detroit Drydock Engine Works will build the engines which will be compounded and in size 28 and 50 by 48.

The tug Kitty Haight, formerly of Moffat's tug line, was sold at sheriff's sale on Saturday last at Sarnia to a Toronto party for $3.900. She was built at Buffalo in 1874, aud is 36 tons burden. All things considered she sold well.

Captain Eben Ward's new steamer will cost $90,000. She will be finished and ready for business August 1st.

A party of two or three gentlemen whose names were not ascertained, were here a day or two since from Chicago, with the view of purchasing a steambarge for Lake Michigan traffic, but went away without accomplishing their mission. Mr. Gilchrist, of Vermillion, has been here also for a like purpose, but, as in the other case, was unsuccessful. As was remarked by a broker, the other day, everything relating to the exchange of vessel stock is comparatively in statu quo. No one is eager to buy and no one cares to sell, and it is likely to continue so for the present.

The latest cold snap has formed considerable ice in the Detroit river, though not interfering with the ferry steamers. Below the city, and thus along the stream it is blockaded, but as the weather has again moderated it will not be of long duration.

The recent report of the commission, selected to investigate the Algoma shipwreck, meets in this quarter general approval. Although their decision has been modified by the Dominion government, yet it is to be hoped that one point of their decision will be rigidly enforced in the future by both governments, that of compelling steamers to leave in port a register of all on board, which should apply to sail as well as steam.

The United States district court in this city, has caused to be turned over from the receiver into the hands of the United States marshal all the tugs and vessels belonging to the Detroit Tug & Transit Company. In all there are seven boats which will be sold about February 20, and it is thought that creditors will receive about sixty cents on the dollar. There are five tugs and two schooners.

There have been numerous cases in admiralty going on the present winter, as was predicted some time ago, and it is the chief resort of captains, listening to proceedings and afterward discussing the pros and cons. In the cases of M. J. Cummings vs. schooner Jane McLeod and Alfred J. Gould vs. the barge Essex, the libels were dismissed.

Mr. Benham, of Palmer & Benham, Cleveland, was in this city Saturday, on business matters and returned home in the evening.

The argument in the case of Thomas Axworthy vs. the propeller Sanilac, was closed in the United States district court here on Saturday and decision reserved. This was a collision matter which occurred at Detroit in November, 1884, at the foot of Bates street, by which the schooner Southwest sustained damage, it is averred, to the extent of $1,000.

Captain James Roberts, of Bay City, was in this city the greater portion of the week as witness in the United States district court.

As the steamer Victoria was approaching her landing at Detroit a few nights since the cry of "a man overboard!" was heard and a rush made to ascertain the cause. It appears that three Canadian farmers came on board at Windsor, all of whom were en route for the far west, and one of the trio, named Samuel Dunseath, was the missing man. How or in what manner he got overboard could not be learned, as the rail was breast high, and by some it was thought to be a suicide. An attempt to recover the body by dragging was unsuccessful, owing to drifting ice. He hailed from Mullma, Ont., was 23 years old, and unmarried.

Captain Stark, of the schooner Dauntless, has been quite seriously ill at his residence in this city for some days. The present indications are that all danger is past.

HALL.

PORT HURON.

The schooner Lizzie A. Law carried 46,000 bushels of grain from Port Huron to Buffalo a year ago last November. J. E. and Wm. F. Botsford were the consignees, and the vessel was loaded at their elevator in this city. On transferring the cargo at Buffalo it was found to be 436 bushels short. The Botsfords compelled Captain Law to make up the shortage at 83 cents per bushel, which he did under protest, and he now sues them in the admiralty court at Detroit before Judge Brown, to recover the money. As it is the first time such a suit has ever been brought in admiralty, the case excites considerable interest among vessel men.

OPINIONS ON THE CANADIAN WRECKING LAWS.

I.

The board of managers of the Lake Carriers' Association, believing that the practice of the Canadian authorities in certain localities in refusing to allow American vessels in distress in Canadian waters to receive assistance from other American vessels, could not be justified by the laws of Canada, obtained from Canadian counsel an abstract of the Canadian laws on the subject, and submitted the following questions for opinions thereon:

1. Is there anything in the laws or decisions of Canada to prevent any American steam or other vessel from going to the assistance of another American vessel that may ground or otherwise be in distress in Canadian waters, while bound on a voyage from one American port to another, without designing to call at any port or place in Canada?

2. Is there anything in the laws or decisions of Canada to prevent an American craft, as part of the assistance contemplated in Question 1, from lightering a part of the cargo of such vessel in distress, if necessary to relieve the distress?

3. Is the term "distress," as used in this connection in Canadian law, meant to cover every sort of marine mishap, large or small, and if not, to what is its meaning restricted, and on what authority?

4. What recourse has an American vessel owner in case his vessel is illegally detained or fined by a Canadian officer?

Replies were received as printed herewith. Mr. McLennan is of the firm of McGibbon & McLennan, Montreal. Mr. Wm H. Kerr, Q. C., is also of Montreal. Mr. S. H. Blake, Q. C., is of the firm of Blake, Lash, Cassels & Holman, Toronto, and was formerly Vice Chancellor of Ontario. All have had especial familiarity with questions of this nature.

The opinions, taken together, show conclusively that the Canadian laws upon foreign wrecking differ greatly from the practice under those laws of certain of the Canadian collectors. They show, beyond question, that an American vessel may tow another vessel wrecked, stranded or in distress in Canadian waters back into the waters of the United States (but not to any port or place in Canada), and that assistance may be rendered by lightering, if necessary to relieve the distress, provided the customs laws are not interfered with, and provided the vessel in distress has not been taken charge of by a receiver of wreck, who has given instructions to the contrary. Also, that such receiver of wreck cannot take charge of a vessel contrary to the express wish of her master, owner or agents. In cases of imminent danger to life or property, where no Canadian assistance is readily obtainable, much greater liberties are allowed.

In addition to obtaining these opinions, the Lake Carriers' Association addressed a letter to President Cleveland on this subject, under date of December 15, 1885* calling his attention to the Act of Congress, passed in June, 1878, which offered free wrecking privileges to Canada at any time that she might extend the same to us, and respectfully requesting him to renew negotiations with that government in the matter. A reply was received, saying that the matter would be brought to the attention of the Secretary of State.

The Hon. W. C. Maybury, of Detroit, has also taken active interest in this subject, and advises us that he will introduce in Congress a resolution calling upon the Secretary of State to report what action was taken under the Act of 1878, and what further action is now necessary for the relief of our commerce.

The Lake Carriers' Association earnestly hopes that before navigation opens, the laws, or practices, of the two countries will have been so amended that wrecks, either in our own or Canadian waters, will be entitled to all the assistance that either country can furnish, without restrictions. If, however, no change shall have been made in the laws, by the time navigation opens, the association contemplates making a test case, under the opinions herewith presented, and pushing it to an issue in the Canadian courts.

Vessel owners interested in this question are requested to communicate with the secretary of the association.

Buffalo, January 16, 1886.

S. D. CALDWELL, President.

FRANCIS ALMY, Secretary.

See MARINE RECORD, Vol. VII, No. 52.

II—OPINION OF MR. FRANCIS M'LENNAN, CONCURRED IN BY MR. WILLIAM H. KERR, Q. C.

1. Is there anything in the laws or decisions of Canada to prevent any American steam or other vessel from going to the assistance of another American vessel that may ground or otherwise be in distress in Canadian waters, while bound on a voyage from one American port to another without designing to call at any port or place in Canada?

The answer to this question depends upon the nature of the assistance required; let us call the vessel in distrsss "A" and the other "B."

FIRST CASE—A seeks from B assistance not requiring the use of apparatus and not involving dealing with A's cargo.—B could not be prevented from giving this assistance, provided that B towed A out of Canadian waters in case the assistance required was mere towing. If B were in a Canadian port when called upon to do such towing, the intention of B to do so would have to be declared at Customs when making an outward clearance.

SECOND CASE—A seeks from B assistance requiring the use of apparatus and involving dealing with A's cargo.—B would be prevented from giving such assistance unless this were necessary to save life or to prevent A from becoming a wreck. If a Canadian vessel could do the service equally well, B would not be allowed to act, and would be subjected to penalty were it attempted.

THIRD CASE—A is a wreck.—While still floating B would be allowed to save cargo or material, but if A were stranded or on shore B would not be permitted to act.

2. "Is there anything in the laws or decisions of Canada to prevent an American craft, as part of the assistance contemplated in Question 1, from lightering a part of the cargo of such vessel in distress, if necessary to relieve the distress?"

An American craft would not be permitted to act as lighter, except in the case of urgent necessity, where a vessel without this assistance would become a wreck, and where there was no Canadian vessel available to perform the service.

3. Is the term "distress," as used in this connection in Canadian law, meant to cover every sort of marine mishap, large or small, and if not, to what is the meaning restricted and on what authority?

Distress is not used in the same sense in all the acts.

In 38 Vic., Cap. 27 S. 1 (Amending the Coasting Act), "distress" means, according to the Department of Marine and Customs, "danger to life or imminent danger to property."

In the Wreck and Salvage Act, 1873, the use of the phrase "distress" means disaster other than wrecking or stranding; and the only decision I have been able to find bearing on the question would seem to confirm this view.

4. What recourse has an American vessel owner in case his vessel is illegally detained by a Canadian officer?

The first proceeding when a vessel is detained is to serve within a month a notice in writing, on the collector of the nearest port, that the owner claims his vessel.

The release of the vessel may be obtained by payment of the fine under protest, or by the deposit of a sum of money, to be fixed by the collector, as security.

Three modes of obtaining redress are then open:

FIRST—The matter may be submitted to the Department of Customs, and if the decision of the Minister be accepted, it is final; but if not accepted the case would not be prejudiced by the discussion with the department.

SECOND—The officer responsible for the detention of the vessel may be sued for the release of the vessel, or if she has been released, for the recovery of the fine.

THIRD—Leave might, it is possible, be obtained to bring a petition of right in the Exchequer Court, and when once begun such an action would proceed against the Queen, much as against a private person; but all suits against the Customs are unsatisfactory, as neither costs nor damages can be recovered if it is shown that probable cause for the seizure was given by the parties impleaded.

Montreal, 16th. November, 1885.

FRANCIS MCLENNAN.

I concur in the foregoing opinion.

WILLIAM H. KERR.

III—OPINION OF MR. S. H. BLAKE, Q. C.

The first question asked is: Is there anything in the laws or decisions of Canada to prevent any American steam or other vessel from going to the assistance of another American vessel that may ground or otherwise be in distress in Canadian waters, while bound on a voyage from one American port to another without designing to call at any port or place in Canada?

ANSWER—In the absence of some statute or regulation having the force of law to prevent it, it is clear that the assistance referred to may be lawfully given. It is necessary, therefore, to consider the statutory provisions on the subject.

The Dominion Act, 38 Victoria, 1875, Cap. 27, entituled, "An Act to amend an act respecting the coasting trade of Canada," provides that "the master of any steam vessel, not being a British ship, engaged or having been engaged after the passage of this act in towing any ship, vessel or raft from one port or place in Canada to another, (the act does not cover towing from Canadian waters to a point outside Canada), except in case of distress, shall forfeit the sum of $400, and such steam vessel may be detained by the Collector of Customs * * * * until such penalty is paid." The Dominion Act, 36 Victoria, 1873, Cap. 55 intituled, "An Act respecting Wreck and Salvage," provides for the appointment of receivers of wreck, and declares that where any British or foreign vessel is wrecked, stranded or in distress at any place within the limits of Canada, the receiver shall, upon being made acquainted with such stranding or distress, forthwith proceed to such place, and upon his arrival there he shall take the command of all persons present, and shall assign such duties and issue such directions to each person as he thinks fit for the preservation of such vessel and of the lives of the persons belonging to or on board the same, and of the cargo, stores and tackle, etc., etc. The following proviso is added: "Provided always that nothing in this "act shall be construed to authorize the receiver to take charge of any ship, cargo, or materials contrary to the express wish of the master or owner of such ship or cargo or of their agents."

The act gives to the receiver, upon taking charge of the vessel or property, etc., very wide powers respecting what is to be done for the preservation of the vessel, etc., and imposes a penalty upon any person disobeying the directions of the receiver. The act also provides that where any person takes possession of "wreck" within the limits of Canada, he shall, as soon as possible, deliver the same to the receiver, and it imposes a penalty for breach of this provision. Wide powers are given to the receiver respecting the disposal of wreck and to the payment of salvage, etc., etc., with respect to the claims to such wreck by persons claiming to be the owners thereof.

The act also imposes a penalty upon any person who, within the limits of Canada, prevents or impedes or endeavors to prevent or impede the saving of any vessel which is wrecked, stranded, abandoned or in distress, or prevents or impedes or endeavors to prevent or impede any person in his endeavor to save such vessel, or prevents or impedes or endeavors to prevent or impede the saving of any "wreck."

It will be observed that under the act of 1875 an American steam vessel can not lawfully engage in towing any ship, vessel or ratt from one port or place in Canada to another except in case of distress.

There is, however, no provision in the act of 1873 which would prevent any vessel, American or otherwise, or any person, British subject or foreigner, from going to the assistance of a vessel wrecked, stranded or in distress, or of saving such vessel and the lives of the persons on board, and the cargo, stores, etc., except in the case where a receiver has lawfully taken charge of the ship, cargo, etc, and has given orders to the contrary.

In order to understand when an American steam vessel may lawfully engage in towing a ship, etc., from one port or place in Canada to another, it is necessary to consider the meaning of the word "distress" as used in the act, because it is only in case of distress that such towing can lawfully take place.

I am of opinion that to make a case of distress within the meaning of the act, there must be actual danger to life, or actual and imminent danger to the vessel.

The word "distress" is not meant to cover every sort of marine mishap, large or small; but covers such a state of matters as that if in the fair and honest opinion of those who ask aid and those who give it, the assistance by towing be not given, there will be danger to life or imminent danger to the vessel.

It should be observed that if there be a Canadian vessel at hand, able, ready and willing to render the necessary assistance by towing, the American vessel should not interfere, as the case would hardly come within the act; for, so long as the cause of the distress was being removed by the Canadian vessel, the American vessel could not well justify interfering on the ground that her assistance was required to relieve the distress.

Answering the question asked in the language in which it is propounded, I am of the opinion that there is nothing in the laws or decisions of Canada to prevent any American steam or other vessel from going to the assistance of another American vessel that may ground or otherwise be in distress in Canadian waters, while bound on a voyage from one American port to another, without designing to call at any port or place in Canada, unless (1) the assistance required is towing, and there be at hand a Canadian vessel, able and willing to render the necessary assistance by towing; (2) unless a receiver of wreck has taken charge of the vessel which is wrecked, stranded or in distress, pursuant to the provisions of the Wreck and Salvage Act of 1873, and has given orders to the contrary.

It will be convenient to mention here that "wreck," properly so called, is wreck cast upon the land; and in the absence of a definition of the word in the Act of 1873, it would probably be confined to that which is cast upon the land. By the Merchants' Shipping Act, 1854, "wreck" is defined to include "jetsam," "flotsam," "lagan," and "derelict," found in or on the shores of the sea.

"Jetsam" is when goods are cast out of a ship to lighten her, and afterward the ship perishes. "Flotsam" is where a ship sinks or otherwise perishes, and the goods float. "Lagan" is where heavy goods are, to lighten the ship, cast out and sunk, tied to a buoy, or cork, or something that will not sink, in order that they may be found again and recovered. "Derelict" is ships or goods totally abandoned and forsaken.

It would be safer to assume that the word "wreck" as used in the Act of 1873, would receive the same definition as that given to it in the Merchants Shipping Act.

The second question is as follows: "Is there anything in the laws or decisions of Canada to prevent an American craft, as part of the assistance contemplated in Question 1, from lightering a part of the cargo of such vessel in distress, if necessary to relieve the distress?"

ANSWER.—I have already explained that the Act of 1875 applies only to the case of an American steam vessel towing a ship, etc., from one port or place in Canada to another.

In my opinion there is nothing in the laws or decisions of Canada to prevent an American craft as part of the assistance contemplated in Question 1 from lightering a part of the cargo of the vessel in distress, if necessary to relieve the distress, unless the vessel in distress has been lawfully taken charge of by a receiver of wreck who has given instructions to the contrary.

It must, however, be borne in mind that all persons, whether British subjects or foreigners, who take possession of wreck, must obey the directions of the act of 1873 as to the disposal of such wreck, and must also conform to the provisions of the revenue laws relating to the subject.

Section 60 of the Customs Act of 1883 provides, that goods derelict, flotsam, jetsam or wreck, or landed or saved from any vessel wrecked, stranded or lost, brought or coming into Canada, shall be subject to the same duties and regulations as goods of the like kind imported are subject to.

The Customs Act prevents the landing of goods from a vessel or the breaking of bulk between the time of vessel coming within the limits of Canada and of making the necessary report to the Custom House.

Section 30 declares, that the necessary discharging of any goods for the purpose of lightening the vessel in order to pass any shoal or otherwise for the safety of such vessel, shall not be deemed an unlawful landing or breaking of bulk.

To avoid any doubt on the subject and to save any trouble which otherwise might ensue, it would be well to report at once to the nearest Custom House the fact of the lightering of the cargo, and the circumstances connected therewith, in order that the instructions of the collector may be taken with respect to the necessary entries (if any) to be made.

The third question is as follows: "Is the term "distress," as used in this connection in Canadian law, intended to refer to any sort of marine mishap, large and small, and if not, to what is the meaning restricted and on what authority?

ANSWER.—In answering the first question I have said all that seems necessary on this subject.

The fourth question is: "What recourse has an American vessel owner in case his vessel is illegally detained by a Canadian officer?"

ANSWER.—The first proceeding is to serve without delay and within a month a notice in writing on the proper collector or other person under whose authority the vessel was seized, claiming the vessel on the part of the owner.

If a release cannot be obtained by negotiations with the proper department of the government, the only recourse would be to present a petition of right to the Crown and prosecute the same in the Exchequer Court of Canada, where the legality of the seizure might be decided.

If the whole action on the part of the officers of the government were illegal, the person actually detaining the vessel might be sued for the damages sustained; but if in such action the judge certified that there was probable cause of seizure, the claimant might be deprived of costs and could not recover more than 20c. damages.

S. H. BLAKE.

Toronto, 16th December, 1885.

HISTORY OF LAKE NAVIGATION.

BY J. W. HALL.

Written for the Marine Record:

CHAPTER LIII.

For several years, beginning as early as 1854 parties in Canada indulged in the hope of acquiring a sufficient appropriation from the British government for the construction of a canal between Georgian Bay and Lake Ontario, the terminus to be at or near Toronto. The proposed canal would be about eighty miles long, penetrating from Nottawassaga Bay, through the valley of the same, thence to the Humber river at Toronto. The summit is 650 feet above the waters of Lake Ontario, and would require a succession of locks in the ascent and descent to Georgian Bay, the latter descent being only 310 feet, Lake Ontario lying 340 feet below Lake Huron. This projected canal, had it succeeded, there can be no doubt would have proved of great importance to the great northwest in the shipments of grain and the various other products of that immense region, beside the saving of water navigation of nearly a thousand miles, and avoiding the dangers of an intricate character through Lake Huron, the St. Clair river and St. Clair flats, and onward through the Detroit river, through which many thousands of dollars have yearly been sacrificed at the Lime Kiln crossing; Bar Point and through Point au Pelle passage, as well as the wearisome passage through the Welland canal. The geographical position of the intended canal, so far as regards the Atlantic seaboard and various cities of the United States, which were striving for the trade and traffic of the great west, would give to Toronto the power to make those vast countries, to a certain extent, tributary to her. These immense productions would seek the seaboard through this canal, and as a writer truly observes "would, ere long, be pouring its flood of trade and traffic through the proposed channel." Westward are vast and fertile countries, adapted to all the pursuits of agricultural life, susceptible of the highest cultivation and improvement. Between Lake Superior and the Lake of the Woods, the soil is inferior to no part of Minnesota, and adjacent thereto lies the valley of the Red River country, as it is generally known. As a wheat growing country it is unrivaled. This valley contains about 350,000 square miles, and is intersected in every direction by navigable rivers. Beyond this lies the valley of the Saskatchawan, which contains about 400,000 square miles, a valuable and productive region. Attention was also called to another source of trade which would contribute to swell the traffic through the intended canal. Hudson Bay would give to Canada a seacoast of three thousand miles, It abounds with whales and all kinds of fish, and, strange as it may appear, that great bay lies as it were in the center of Canada.

This great project has for many years been lying in a dormant condition, but sooner or later, there can be no doubt of its ultimate success, and the wonder will be why so important a work was not sooner carried out. The opposition which the projectors have had to meet was chiefly railroad corporations on either side of the line; yet time will develop the fact that there will not be a sufficiency of this kind of transportation to meet the wants of the great commerce which is rapidly advancing.

The line of steamers which were put upon the route to Lake Superior in 1856, through the Sault canal, then in the second year of its opening were as follows:

Steamer Illinois, 926 tons, Captain John Wilson.

Steamer North Star, 1,106 tons, Captain B. G. Sweet.

Steamer Planet, 1,154 tons, Captain Joseph Nicholson.

Propeller Manhattan, 320 tons, Captain John Spaulding.

Propeller Mineral Rock, 560 tons, Captain John Frazer.

Propeller General Taylor, 462 tons, Captain Redmond S. Ryder.

Propeller B. L. Webb, 862 tons, Captain C. K. Dixon. The Webb had been rebuilt and did not come out until late in the fall, and on her first trip was burned in Waiska Bay with the loss of one life and the boat a total loss.

Steamers plying between Buffalo and Green Bay, were as follows:

Michigan, 642 tons, Captain Albert Stewart.

Sultana, 650 tons, Captain N. Mead.

On other routes steamer appointments were as follows:

Sam Ward, 433 tons, Captain H. Fish, between Detroit and Saginaw.

Ploughboy, 300 tons, Captain D. Rowan, Detroit and Goderich.

Mazeppa, 250 tons, from Detroit to Saginaw.

Forester, 504 tons, Captain J. Robertson, Detroit and Port Huron.

Forest Queen, 462 tons, Captain S. D. Woodsworth, same route.

Ariel, 165 tons, Detroit to New Baltimore.

Albion, 132 tons, Detroit to Mt. Clemons.

Plymouth Rock, 1,991 tons, Captain P. J. Ralph, Detroit and Buffalo.

Western World, 2,000 tons, Captain J. H. Barker, Detroit and Buffalo.

Mississippi, 1,829 tons, Captain S. G. Langley, Detroit and Buffalo.

Arrow, 373 tons, Captain J. W. Keith, Detroit and Toledo.

Dart, 297 tons, Captain S. Dustin, Detroit and Toledo.

Bay City, 479 tons, Captain J. M. Lundy, Detroit and Sandusky.

Southern Michigan, 1,470 tons, Captain Goldsmith, Buffalo and Toledo.

Western Metropolis, 1,830 tons, Captain I. T. Pheatt, Buffalo and Toledo.

City of Buffalo, 2,200 tons, Captain A. D. Perkins, Buffalo and Toledo.

Crescent City, 1,740 tons, Captain W. T. Pease, Buffalo and Cleveland.

Queen of the West, 1,850 tons, Captain D. H. McBride, Buffalo and Cleveland.

Clifton, 247 tons, Captain H. Van Allan, Buffalo and the Falls.

Mohawk, Captain Hollywood, Buffalo and Port Stanley.

Navigation commenced at Buffalo May 2, 1856, and at the Straits of Mackinaw on the same date, the schooner David Tod the first to pass through, bound west.

The valuation of imports at Buffalo for the year 1856 by lake, was $45,684.079, a decrease from the previous season of $4,662,740. The quantity of products received at that port during 1856, from the different states, by water, were from Ohio ports, flour, 641,155 bbls; wheat, 826,016 bushels; corn, 1,717,130 bushels; oats, 1,094,015 bushels. From Michigan, flour, 203,125 bbls.; wheat, 495,289 bushels; corn, 164,497 bushels; oats, 42 314 bushels. From Illinois, flour, 122,472 bbls.; wheat, 5,127,947 bushels; corn, 7,922,461 bushels; oats, 548,326 bushels. From Wisconsin, flour, 115,427 bbsl.; wheat, 1,707,798 bushels; corn, 52,702 bushels; oats, 39,146 bushels. From Canada, flour, 60,906 bbls.; wheat, 386,067 bushels. Total, flour, 1,143,085 bbls.; wheat, 8,543,117 bushels; corn, 9,846,790 bushels; oats, 1,723,801 bushels.

Arrived, American vessels from foreign ports 112, tonnage 17,745 tons, crews 508. Arrived, foreign vessels from various ports 718, tonnage 71,039 tons, crews 5,314. Total, arrivals 830, tonnage 88,784 tons, crews 5,912. Cleared same season, American vessels to foreign ports 181, tonnage 30,607 tons, crews 1,193. Cleared, foreign vessels to various ports 632, tonnage 62,833 tons, crews 5,580; total 813 vessels, 93,440 tons, crew 6,773. The losses on the lakes in hull and cargo by steam and sail for the month of May was $142,600, June $118,550, July $266,130, August $67,750, September $342,860, October $882,039, November $1,059,395, December $159,550. Total loss by steam and sail in 1856, $3,038,874, an increase over 1855 of $241,035. Total loss of life 407, an increase over 1855 of 209. The loss on steam hulls was $732,800. Loss of cargoes by steam $645,300, making a total loss by steam of $1,378,100. Loss on sail vessels $863,675. Loss on cargoes by sail vessels, $797,099. Total loss by sail vessels in 1856, $1,660,714.

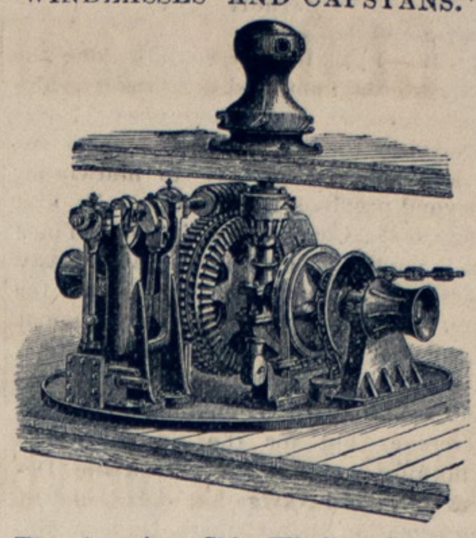
The number of vessels employed on the lakes in the fall of 1856 was steamers 107, tonnage 62,863 tons, cash valuation $3,320,400; propellers 135, tonnage 54.675 tons, cash valuation $2,741,200; barques 56, tonnage 21,773 tons, valuation $673,800; brigs 108, tonnage 27,045 tons, valuation $701,850; schooners 850, tonnage 173,380 tons, valuation $5,487,100. Total number of craft 1,256 tonnage 339,736 tons, valuation $12,944,350.

The exhibit of losses for 1856, as above noted, was the largest ever before recorded, and exceeded those of several subsequent years, notwithstanding the yearly increase of tonnage.

The valuation of commerce which passed through the St. Clair flats during the season of 1856 was placed at upward of three hundred millions of dollars, while the coasting trade not included in the above estimate amounted to at least a hundred millions more.

The improvements in the way of handling grain up to this period, over the old way, by buckets, was an increase of elevators at all the principal ports of shipment. The first of these important inventions on the lakes was constructed at Buffalo by Joseph Dart during the winter of 1842-'43, on the north side of Buffalo creek, and was burned in 1862. The first vessel which unloaded there was the schooner Philadelphia, Captain Charles Rogers, a vessel of 123 tons burden, and had on board 4,515 bushels of wheat which was consigned to Kinne & Davis. The first cargo of corn which discharged there was the schooner South America, Captain A. Bradley, which had on board a trifle over 3,145 bushels, also the schooners H. M. Kinne, Captain M. Capron and Wm. Brewster, Captain Wood, all of which arrived and discharged in the month of June. Beside these there were seventy others, composed of barques, brigs and schooners which discharged at the same elevator during that season.

WINDLASSES AND CAPSTANS.



The American Ship Windlass Company, Providence, R. I., will supply the following vessels:

The schooner building by Henry Sutton at New Haven, Conn., a "Providence" patent pump brake windlass of latest style, with Grater's patent friction locking gear, also main deck capstan.

The fishing smack building by Robert Palmer & Son, at Noank, Conn., a "Providence" steam pump brake windlass, with Grater's patent friction locking gear, and a pair of 6x8 inch engines, iron side and pawl bitst.

Windsor Foundry Company, Windsor N.S., a "Providence" capstan windlass with Grater's friction locking gear, 1⅞ inch chains, for ship of 1300 tons.

The steamer building at East Boston, Mass., by Montgomery & Howard for Old Colony Steamboat Company, a "Providence" steam capstan windlass with Grater's patent friction locking gear, counter balance for engines, Emery & Cheney's patent rubber stoppers and latest improvements; also main deck capstan and rudder supporter.

Dredge boat building at Jersey City for Ross & Sanford, four windlasses connected to donkey engines, with Grater's friction locking gear and Emery & Cheney's patent rubber stoppers.

Yacht Intrepid, Lloyd Phenix, owner, of New York, a "Providence" pump brake yacht windlass with Grater's friction locking gear, iron side and pawl bitts and latest improvements.

Yacht Nooya, of New York, a "Providence" patent yacht windlass with Grater's friction locking gear and latest improvement.

Steam yacht Reva, Pierre Lorillard, New York, a "Providence" steam yacht windlass with Grater's friction locking gear in barrel of capstan. It is to have many novel features that are new.

United States revenue steamer Crawford, at Baltimore, Md., a "Providence" pump brake windlass, new style, with Grater's friction locking gear and clamps and iron side bitts.

Car float, at South Amboy, N. J., a "Providence" pump brake windlass with brakes to work fore and aft to save room.

Three steamers at Detroit, building by Detroit Drydock Company, the "Providence" patent capstan windlass with Grater's patent friction locking gear and iron side bitts.

Steamer building at Harlan & Hollingsworth Company, to run on river in South America, a "Providence" steam dock capstan to pull steamer up the rapids.

English steamer Pomona, at New York, a "Providence" steam pump brake windlass, to replace English windlass, broken by collision with another steamer.

Steamer building at Trenton, Mich., by John Craig for Captain Cuson, a "Providence" patent capstan windlass with Grater's friction locking gear, gypsey ends and all improvements.

Steel steamer building by Union Drydock Company at Buffalo, a "Providence" steam capstan windlass, with Grater's patent friction locking gear, counterbalance for engines, iron side and pawl bitts. Also steam capstan to go aft, for hadling stern lines when warping to the wharf, turning round etc.

Steamer City of Duluth, at Buffalo, New York, a "Providence," patent capstan windlass, with Grater's friction locking gear and latest style throughout to replace her present windlass.

Schooner building at New Haven, Conn., by John Doyle for Captain Curtis, Van-Name & King, and others, a "Providence," new style, pump brake windlass, with Grater's friction locking gear and clamp. Also main deck capstan.

Barge building by Milwaukee Shipyard Company, a "Providence" patent pump brake windlass.

Coal barge Electra, belonging to Staples & Phillips, of Taunton, at Noank, Conn., a "Providence" patent steam pump brake windlass, with 6x8 inch engines. It is to have Grater's patent friction locking gear and clamps, iron side and pawl bitts, etc.

Steamer Minnesota, at Milwaukee, is to have ends put on her windlass and iron side bitts.

The steamer City of Cleveland, at Detroit Drydock Company, has a windlass with Grater's patent friction locking gear. The public are requested to examine it.

All windlasses should have this locking gear, as it prevents breaking of windlass and parting of chains, as it has an elasticity under sudden strains. One man only is required to unlock under the heaviest strain, where two men are required with old style, as the friction band and lever is discarded.

Captain Thomas Collins and his son will soon commence work on the yacht Vision, to put in a new sister keelson and new center board box and other repairs that are needed.

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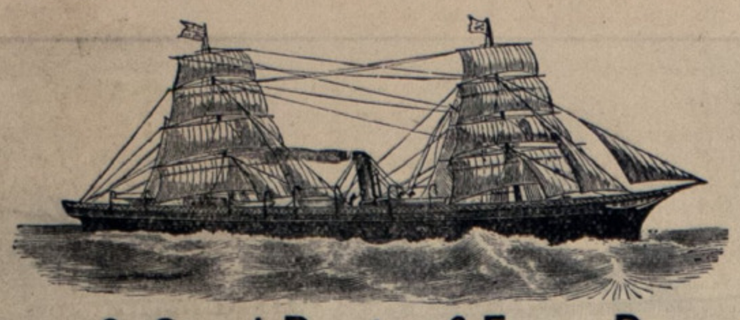

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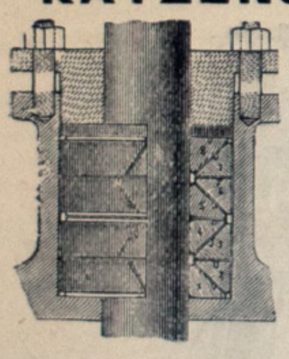

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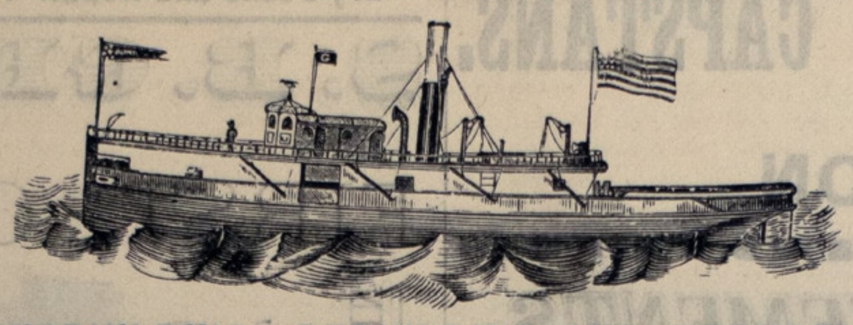

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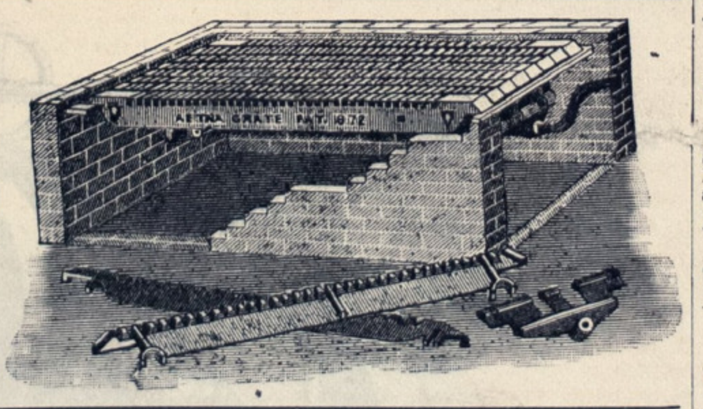

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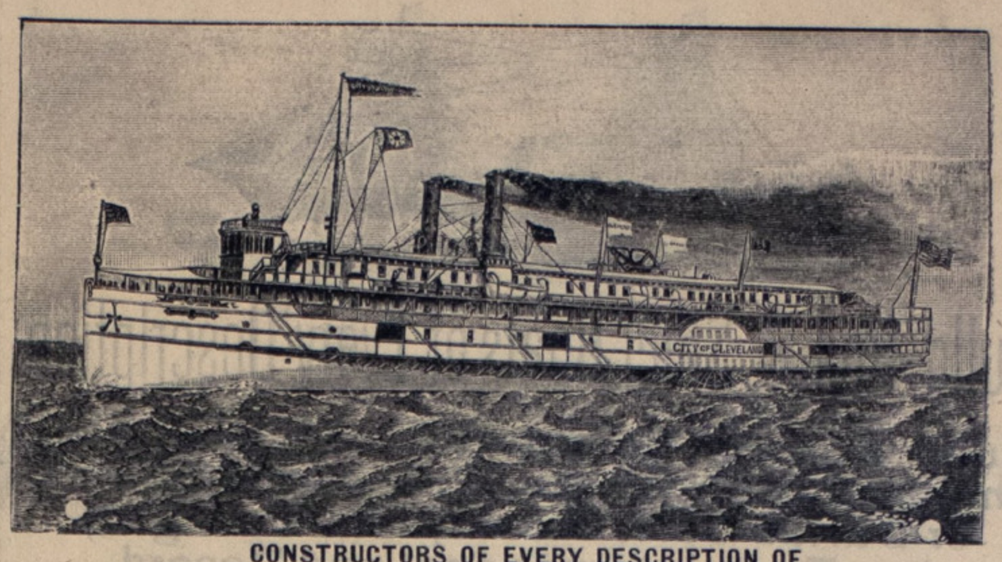

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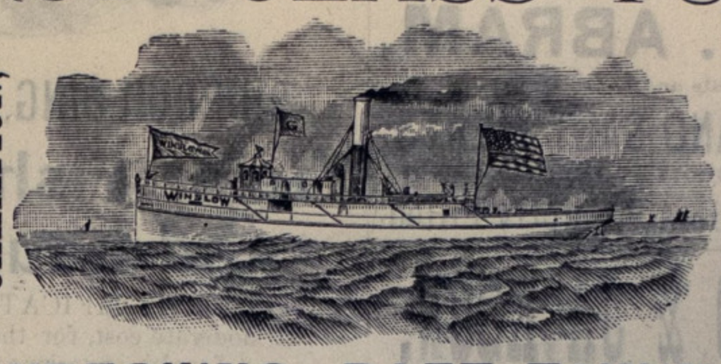

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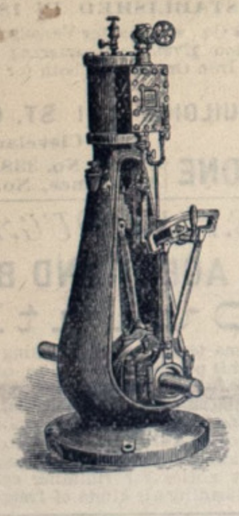

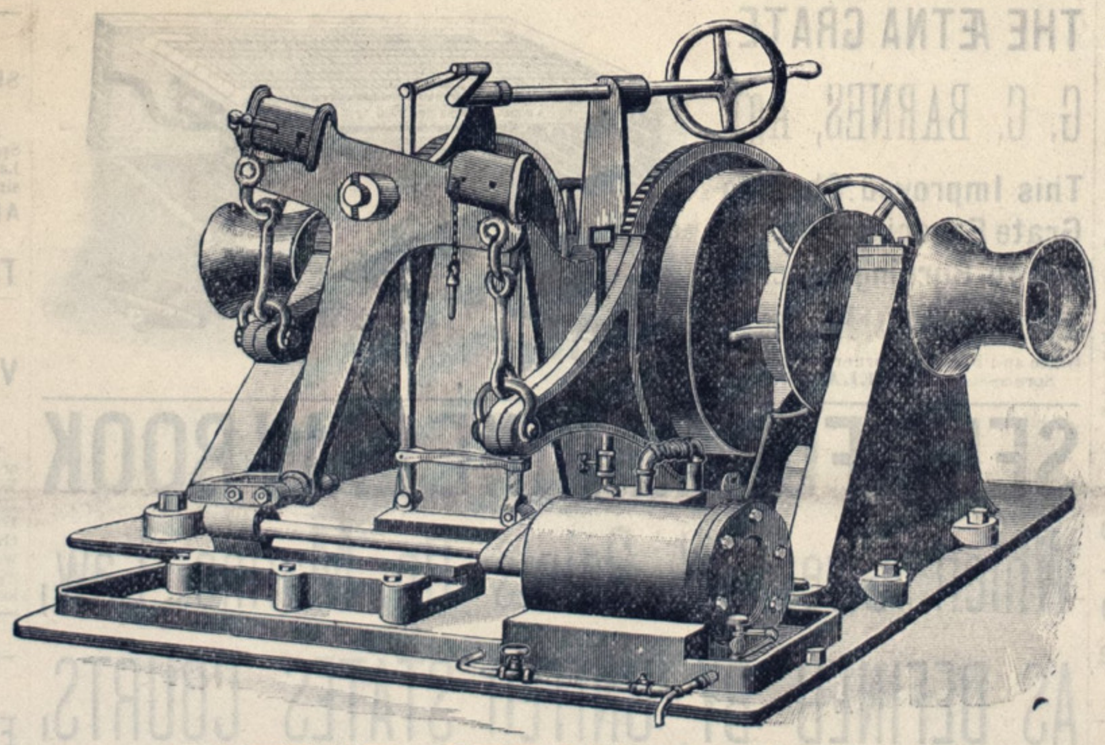

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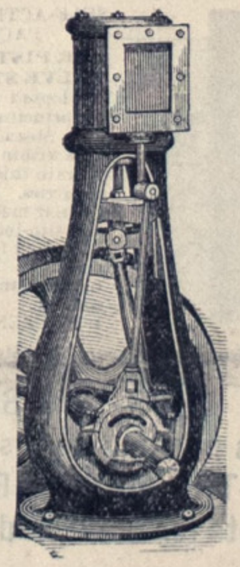

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